

## Abstract

The present invention has an object to provide an optical transmission technology using Raman amplification wherein a supervisory signal transferred among a plurality of optical transmission apparatuses is superimposed on a main signal light by using a pumping light for Raman amplification. To this end, a Raman amplifier applied with the optical transmission method of the present invention, is provided with a supervisory signal superimposing section for superimposing a supervisory signal transferred among the optical transmission apparatuses on at least one of a plurality of pumping lights of different wavelengths to be supplied to a Raman amplification medium via a multiplexer from a pumping light generating section, thereby transmitting the main signal light propagated through the Raman amplification medium to be Raman amplified, which is superimposed with the supervisory signal.